MINING

ABB eMine™ on-board portfolio

Electrifying the drivetrains of mining vehicles and machines

To support the mining industry's goals, ABB collaborates with OEM's and System Integrators, leveraging its long-standing expertise in sustainable transportation.
ABB provides complete electric drivetrains for heavy machinery in both underground and surface mining. Its modular onboard equipment can be tailored to meet the needs of electric mining vehicles, enabling fully electrified, efficient, and cost-effective operations.

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01 Drivetrain solutions for electric mining vehicles

As a pioneer in the electrification of vehicles, ABB offers a broad range of products including retrofit solutions. ABB's highly integrated systems include traction converters, motors, inverters and batteries.

Advanced drivetrain technology
The electric powertrain ensures advanced control of the vehicle. The state-of-the-art drive designed for traction application controls wheel speed and closely regulates the torque transmitted to the drive wheels. Speed and torque control reduce wheel spin under adverse conditions and provide improved vehicle traction. This eliminates tire wear which saves maintenance cost.

In addition, the electric motors provide high torque which make gearboxes obsolete or reduces them to a minimum. This enables an energy efficient system and reduces cost for mechanical components.

Retrofit solutions
ABB's retrofit solutions for the mining industry help companies modernize existing equipment with the latest technology, extending the life of assets and improving overall performance. By upgrading outdated systems, mining operators can enhance operational efficiency, increase productivity, and reduce energy consumption.

Retrofitting also offers the advantage of minimizing downtime and capital expenditure compared to full equipment replacement, providing a cost-effective way to meet evolving industry demands while maintaining sustainable operations.

Vehicles
- Heavy haul trucks
- Dump trucks
- Excavators/Shovels
- Loaders
- Other machinery

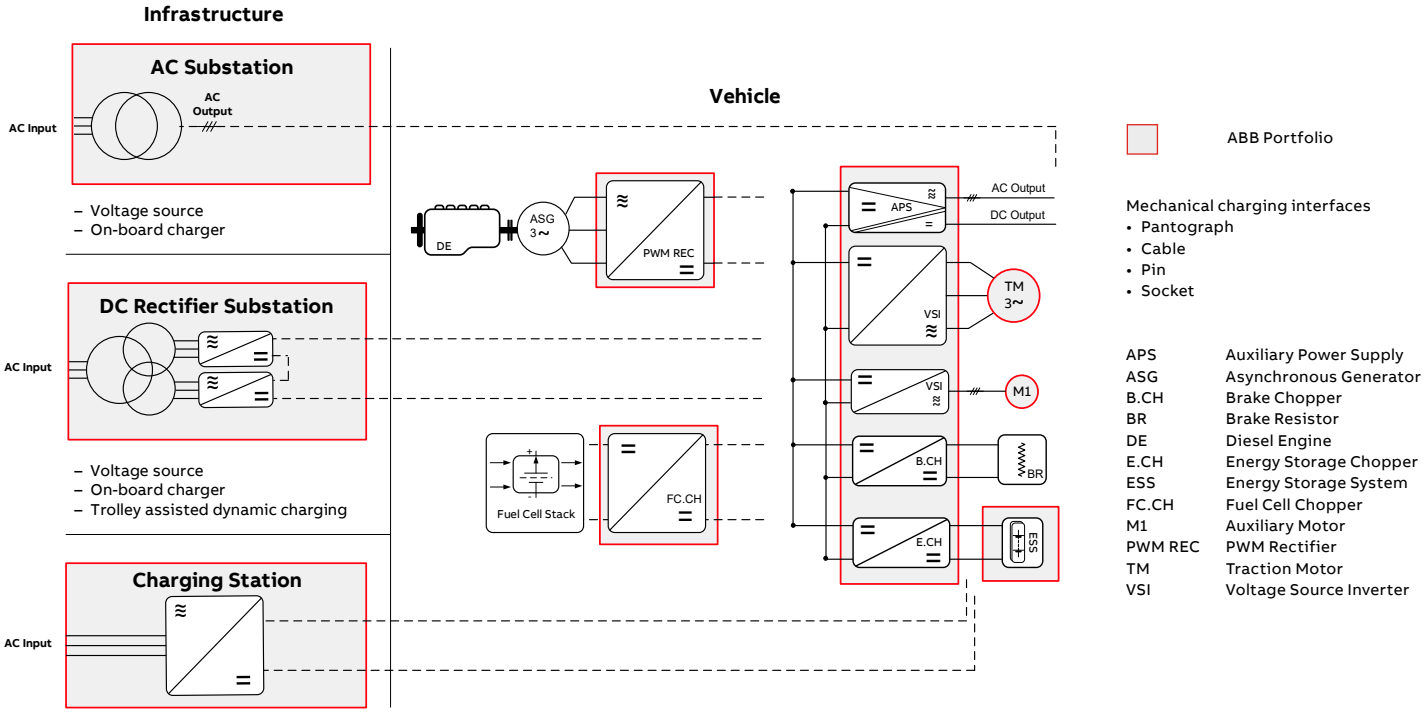
Applications and systems
- Payloads up to 400 metric tons
- Open-pit and underground vehicles
- Pure battery to trolley assisted
- Hydrogen or diesel hybrid

Complete electrification portfolio

Benefits

- One-stop shop for efficient drivetrain system solution or individual component supply
- Highly integrated, customized solution
- Scalable energy storage system
- Reduction of diesel consumption
- Future-proof solution for pure battery, hybrid and/or fuel cell operation

Blockdiagram



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